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Disease in the Unborn. See page 294.

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EDITED BY DR. ANDREW WILSON, F.R.S.E. &c.

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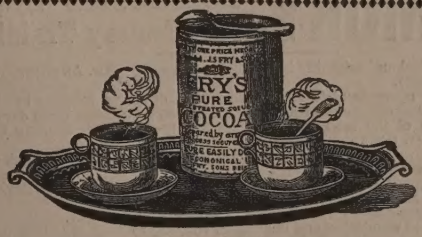

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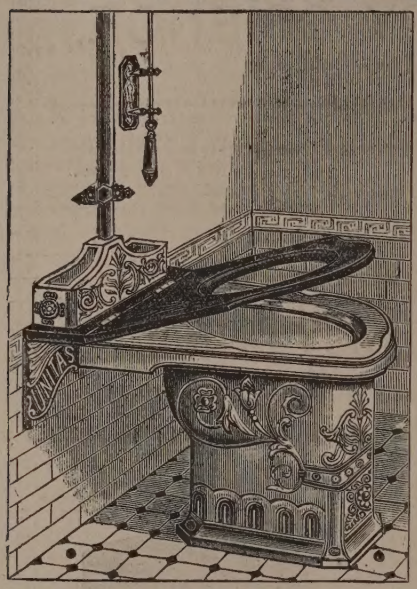

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◆ HEALTH ◆

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, FEBRUARY* 8, 1889.

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Notes by the Way

BY THE EDITOR.

"Health is the foundation of all our physical happiness."—*Herder.*

IF consumption, as nearly all physicians believe, is a disease liable to be communicated from sick to healthy susceptible persons, then the note of alarm, sounded by a barrister of Melbourne, in an Australian medical journal, should receive the attention of our great steamship companies. The barrister objects to travel in a small cabin, having for a possible companion a person suffering from consumption. I give his own words by way of enabling him to put his case plainly before my readers: "The consumptive man," he says, "will have a considerable dread of ventilation, at least such an amount of it as a healthy man would desire; and so, at the very outset, the healthy and ailing find their wishes not in accord. What follows? The healthy man, doubtless prompted by those feelings of humanity which generally contemplate suffering of any sort with pity, will probably waive any objections in favour of the invalid, with what danger to his own health I hope to be able to show. Should he, on the other hand, insist on treating his companion as a person in ordinary health, he feels a sense of reproach, however justifiable under the circumstances his conduct may be; and the invalid, if his complaint be not really intensified, at least feels the dread of its being increased, and, of course, a corresponding amount of mental anxiety; so that the relations between the persons (supposing there are only two in a cabin) must necessarily be strained at the outset,—a state of affairs which by no means adds to the pleasantness of the trip,—and I may say here that there is the greatest difficulty (usually it is quite impossible) to change one's cabin during the passage."

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I TAKE it that most medical men will feel in full sympathy with the writer. The *British Medical Journal*, for instance, in discussing the matter, says that it "would not wish any individual, for whose health we were in any way responsible, to have to share a small, close, ill-ventilated cabin in common with a patient in advanced consumption during the long voyage from England to Australia." Admitting the danger of close association with consumptives, how, it may be asked, is this danger to be avoided? The Australian writer suggests a medical certificate being obtained by all passengers, and that the ship's doctor should have the power of removing passengers to the ship's hospital. But there are obvious difficulties in the way of carrying out this suggestion. The "liberty of the subject" is a ticklish point to raise, and it is very certain it would be at once raised in such an event. Probably the only solution of the question is to be found in the education of the public to understand that consumption is a contagious disease, and that those also who suffer from it should of themselves make it known that they will not occupy the same cabin as healthy passengers. It will be a long time, I fancy, before steamship owners insist on certificates of health from passengers; and failing this protection, we must trust simply to the spread of health-knowledge, and to the practical exemplification, by consumptive patients, of the "golden rule" regarding the welfare of their neighbours.

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THE following extract from the *Auckland Weekly News*, entitled "The Missing Lineman," will interest my readers. "The painful suspense," says the account, "under which the residents of Rotorua were labouring during the past week was rather unexpectedly put an end to on Saturday evening by the appearance of the lost lineman on horseback, all sound and well. The news spread quickly, and in less than five minutes crowds gathered from all quarters, expecting to see nothing but a bag of bones. But Mr. Bussey looked remarkably well, considering the many hardships he must have endured. He appears to have taken a most

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erratic course, having followed the line of road to the Waiotapu Valley. Night coming on, he struck off towards the plains on the Galatea track, leaving which, he made for Tauhara. Thinking he was not altogether right, he doubled back, and came on the volcanic ash fields, passing Rerewhakaitu, and coming out behind the Haehaenga block. Retracing his steps, he again came on to the Galatea track, and was discovered on Saturday by two Maoris of the search party coming along the road from Kakaramea towards home.

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"IT was his sixth day out; and, having lost all his provisions on the morning of the second day, with the exception of a tin of Van Houten's Cocoa, it might naturally be expected that his condition must have been terrible. But no; he was in wonderfully good form. From his own statements, the comfort and sustaining powers of this cocoa are great; in fact, it saved his life. He described the continual crossing of volcanic ash fissures as something frightful. It took him over an hour to get down one and up the other side. How he should have pursued such a course in trying to follow the telegraph line is beyond comprehension, and is best known to himself; but having taken such a road accounts for the long, unsuccessful search, as no one could have dreamt of a lineman following such an out-of-the-way course." The superiority of cocoa to tea, so often detailed in these pages, is fully confirmed by the above incident.

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THE following is an interesting account of the communication of tuberculosis,—of which consumption is one form,—in a rather unusual fashion. A girl, aged fourteen, belonging to a family uncontaminated with phthisis was in friendly relations with a young friend who died of consumption. At the time when this girl died, the patient, E. Z., was in good health. Shortly after the death of the friend she removed the earrings which the other wore from the ears and fastened them in her own. The mother stated that the girl who had died had no wound in her ear, but E. Z. herself, on the contrary, states that her friend had frequently blood and matter on her ear. The patient E. Z. herself had up to that time never worn earrings, although the ears had been bored for the purpose. Shortly after she began to wear earrings the hole through which they were fastened began to secrete freely, notwithstanding which she continued to wear them up to the time when Dr. Duhring saw her.

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IT was on account of the condition of her ears that she was brought to him. He found her pale, somewhat thin, but well built and well developed for her age. Where the left ear had been pierced there was a shallow ulcer with undermined borders, and on the left side of the neck there was a slightly enlarged gland adherent to the skin, which was ulcerated on the surface, and covered with a dirty scab. On removing the scab a somewhat abundant thin secretion escaped. The borders of this ulcer were irregularly dentated. On examining the lungs, there was dulness detected in the left apex. Granulations removed with a sharp spoon from the wound in the ear showed the presence of tubercle bacilli. The further progress of the case was rapid, and at the time Dr. Duhring wrote his paper the patient was rapidly sinking from consumption. Infection had evidently taken place from inoculation of the germ of consumption by means of the earrings.

Original Essays

"Life is not to live, but to be well."—*Martial.*

DISEASE IN THE UNBORN.

By M.D.

SOME time ago I endeavoured to discuss in these pages, with as much plainness of speech as the circumstances warranted, the question of "Healthy Marriage" (see HEALTH, No. 299); and one of the main propositions I then laid down related to the sacred duty (for it is nothing less) of individuals refraining from marriage if, in any sense, they were the subjects of disease. I argued then, as I argue now, that it is really a criminal proceeding for a man or woman knowingly to enter the married state while he or she is affected with any ailment likely to be transmitted to offspring.

A large proportion of the diseases which affect and kill off humanity in civilized states is due to such transmission of disease from parent to progeny. But for this handing down of this terrible legacy, little short of that of Cain in respect of its effects on life and happiness, the human world would present, relatively, a very healthy aspect. Of all ailments, also, it is your inherited diseases which are so hard to stay, so complex to treat, and so difficult to modify, far less to cure. If we could suppose that the diseases transmitted from parent to child were unknown, or, let us say, greatly reduced in frequency, mankind, left to face preventible ailments in the shape of fevers, would speedily attain a degree of health and happiness which they do not dare dream of now. But, as things are, we have perpetually to be fighting the tuberculosis, the scrofula, the syphilis, the gout, and the whole host of nervous diseases which men and women hand down to their sons and daughters with culpable and heart-rending carelessness of results. The great problem of the day is a health-problem, after all. It is that of preventing disease in a threefold phase: disease of infectious kind, disease of inherited and begotten kind, and disease induced by want and starvation due to the over-population of the world.

Now the last two aspects of disease I have just named relate themselves closely and intimately to the question of marriage. I have already argued against the social enormity of over-population as practised by all classes of society. No rational man or woman defends the state of chronic parturition to which women are subjected; and no reasonable mind for a moment denies that it is a criminal thing for a man to beget more children than he can comfortably feed, rear, and educate. The moment excess of population is represented in a State, you may bargain for the appearance of disease. Over-parturition will in itself induce weakly children; and even if the crowded units are born healthy in themselves, they will induce severe competition for food and the necessities of life. Thus we find overcrowding and defective nutrition to play their part in producing disease, and the seeds of a weakly human crop are daily sown in the very circumstances of its birth.

Disease of inherited kind relates itself, in its own turn, to unwise and unhealthy marriage as the source and origin of much ailment. It becomes important to study, even cursorily, the effects of disease-propagation in this way. We may regard such ailments as having been sown in the body antecedent to birth. The ailment of the parent or parents prior to marriage, has laid the foundation of

the disease of the child; and the development of the body before birth, in place of being a thoroughly natural and healthy process, exemplifies one whose course is more or less distorted and modified by diseased action.

Diseases which originate prior to birth may be classified in various ways. Thus there are ailments or defects of body which depend on causes little understood, but which, nevertheless, operating on the developing frame, usher it into the world defective in structure and in health. To such a class belong such abnormalities as hare-lip, cleft-palate, and the over-growth (*hypertrophy*) or under-growth (*atrophy*) of various organs of the body. It is not always easy, and often impossible, to say how or why such defects occur. One thing is certain, however, that these defects occur in obedience to rigid laws of development. There is no room for "chance" in the affairs of our bodies, any more than in the calculations of astronomy. We may not be able precisely to explain why one child is born with two heads, or another with two thumbs on each hand, or a third with one arm poorly and ineffectively formed. But we do know that the production of these abnormalities is as truly regulated by law as is the natural growth of the frame; and, moreover, in many cases we are able to approach within measurable distance of an explanation of such events. In a word, the "monstrosities," so-called, of human beings are no more "freaks of nature" than is the occurrence of an eclipse. Our knowledge is not complete enough to enable us to formulate the laws and conditions on which such unnatural developments depend.

Another, and by far the most important, class of diseases which are developed prior to birth are those which are truly inherited; which arise from the marriage of parents in whom the diseases in question have pre-existed. Again, in this class of ailments, we may distinguish between those which appear at birth, or, at least, shortly after that event, and those which are developed later on in the life of the individual. Both are inherited; the development of the latter group of diseases is, from one cause or another, only delayed.

Many curious facts have been recorded respecting the diseases of the unborn. For example, to deal with an instance of preventible disease first of all, small-pox is an infectious ailment which has been known to attack the child before its birth. Jenner recorded such cases, the remakable point of which consists in the fact that, while the child was affected with the disease, the mother herself escaped, although, of course, fully exposed to all the risks of infection. Conversely, the unborn child may receive directly from the mother the germs of infectious disease from which she herself has suffered; and this result appears as one of the most natural of the consequences of such maternal infection. Infinitely more perplexing is the fact that the child before birth may be affected with tumours of various kinds, including even cancer, and this while the parents themselves have apparently been free from the disease. A possible explanation, of course, is that of referring the source of such an ailment backwards to some ancestor more remote than the parents. It is not unusual for a disease to skip a generation or two, and to appear in all its virulence after a lapse of years.

Lack of due nutrition probably acts like excess of nourishment in producing abnormalities of growth in the child before birth. The "accident" of cleft-palate or of hare-lip is possibly explicable on grounds connected with interference with the proper nourishment of the developing child; and that state in which the spine itself is imperfectly developed points also to some lack of the conditions necessary for the perfect development of the skeleton. A very instructive hint was afforded, in the case of cleft-palate at least, by an interesting observation made some years ago on the lion-cubs which were born in the Gardens of the Dublin Zoological Society. These gardens have long been famed for their successes in breeding lions. For a time, however, it was noticed that the cubs were born with cleft-palates, a condition seriously interfering with their nourishment, and one practically prohibiting their growth in any sense. Struck by the fact that the deficiency in the cubs presented itself in connection with their bony system, the Rev. Dr. Haughton, M.D., suggested that the mother-lions, during their pregnancy, should be provided with an additional supply of bones. This hint was duly acted upon, and the cubs born after the alteration in diet had been made, were found to be perfectly developed in every particular. The nutrition of the mother naturally exercises the most potent effect on the welfare and health of the unborn offspring; and the case just noted, it is evident, has its own patent applications to the regulation of the development of the highest of living forms.

Diseases of a complex type are often transmitted from parent to child, and of these latter ailments nervous affections form the chief examples. It is known, for instance, that epilepsy which originally was produced in the parent by injury to the nervous system, has been transmitted to the young. Brown-Séquard experimentally produced this disease in guinea-pigs, and the young were afflicted with the ailment. Even intermittent or irregular action of the heart is known to be developed before birth. Dr. Richardson mentions a case, that of a child who exhibited it "at the moment of birth, and to whom it was traceable through two generations."

So also among the complexities of this topic of disease before birth, we may rank those conditions in virtue of which a family exhibits a special liability to incur certain forms of disease, while other families show an inexplicable safety and immunity from special ailments. It is not possible at present to trace the nature of these conditions; still less is it possible to say how these mysterious traits and qualities are handed down from parent to progeny. What we do know is, the fact of disease being bred before birth,—developed in the unborn child, commonly as a matter either of direct inheritance from diseased parents, unwisely married; or appearing as the result of known accidents or unascertained conditions affecting child or mother, or both.

The lesson to be laid to heart here, as I have said, is that of wise marriage, and the exercise of due care that the influences transmitted by parents to children are of healthy kind. The old Greeks and Romans alleged that by surrounding the mothers with beautiful objects, fine statuary, and other attractive things, their influence on the unborn children was of healthy character. This belief is of even more ancient origin than the classic days; and there is no denying it contains at least a germ of probability. Perhaps we of to-day reiterate that belief in a more philosophical form, when we allege, what is matter of fact, that whether in the matter of personal maternal health, or of inherited constitution at large, the first duty of the parent, and the chief end of parentage, is to secure the perfect development of the child. We have yet much to learn, and still more to practise, before this desirable end can be attained.

To clean bottles, put into them some shot and a tablespoonful of ashes; half fill them with water, and after a vigorous shaking and rinsing you will find the bottles as good as new.

THE CHEMISTRY OF THE HOUSE.

By Dr. Drinkwater, F.C.S., &c.
Lecturer on Chemistry in the Edinburgh Medical School, &c.

EIGHTEENTH PAPER.

THE CHEMISTRY OF A WASHING-DAY.

(Concluded.)

One of the chemicals which is blamed, and perhaps rightly in many cases, for damaging clothes, is chloride of lime, and although not generally used in good laundries, yet I have no doubt it is sometimes necessary, especially in crowded cities, if clothes are to be returned from the laundry of a good white colour. The active ingredient in this powder is an element called chlorine, a greenish yellow gas with a suffocating smell. It is a substance possessing great chemical power, for it unites with nearly all the elements chemically by mere contact, and sometimes with considerable violence. Nearly all the metals burn spontaneously in chlorine, and with hydrogen gas the action is so violent that mere mixture of the two gases and subsequent exposure to sunlight is sufficient to cause union with explosion. It is due to this attraction for hydrogen that chlorine is useful to the laundress, for it is owing to this that it acts indirectly as a bleaching agent, as we shall presently see.

In the early part of the present century bleaching was a tedious and expensive operation, and most of the cloth manufactured in this country was forwarded to Holland to be bleached, the operation taking sometimes as long as eighteen months. The cost would be, for certain kinds of cloth, about 7s. 6d. for a piece of twenty-eight yards. A similar piece could now be bleached for sixpence. The process consisted in steeping in water, boiling in weak alkali, and then exposing to air on grass. It was next soaked in sour milk, and the above operation repeated until desired result obtained. Long before this Scheele had discovered chlorine, and had demonstrated its power of destroying vegetable colouring matter, but the inconvenience of using an irritating and corrosive gas for such a purpose prevented its general use. At first sight it might appear that bleaching by exposure to air or chlorine depended on entirely different action, but a little chemical knowledge soon dispels such an illusion. Grass bleaching is due to the action of the oxygen, present of course in atmospheric air, and also given off from the growing grass under the influence of moisture and sunlight. The bleaching action of chlorine is also due to oxygen, for if we place a piece of coloured cloth in perfectly dry chlorine gas it undergoes no change. This, of course, proves that chlorine has no bleaching power in itself. If we now moisten the cloth, we see fumes given off from it, and the colour is gradually destroyed. This experiment shows us that water or moisture is necessary to convert chlorine into a bleaching agent.

The full explanation is now simple. Water is composed of hydrogen and oxygen. We have already seen that chlorine has a strong chemical affinity for hydrogen, and it is in fact able to decompose the water, taking the hydrogen to itself to form a substance known as hydrochloric acid, sometimes sold as spirit of salt, whilst the oxygen is left to use its energy in destroying or oxydizing the colour. In bleaching by chlorine then we are not using a new bleaching agent but simply applying our chemical knowledge so as to utilize another source of oxygen, and one which is more thoroughly under control, at least in this climate of uncertain sunlight. Chlorine was discovered in 1774, but it was in 1787 that it was first applied commercially to bleaching purposes. The injurious action, however, of the gas both on the workmen and on the cloth led to its disuse, and it was not until 1799, when Mr. Tennant, of Glasgow, introduced bleaching powder, or chloride of lime, that its powers were available. Bleaching powder practically contains chlorine locked up in a solid state, and ready for use when the bleacher wishes to unlock it, so to speak. It is made by passing chlorine gas over lime. The chlorine is made by one of many processes, but at present the one which finds most favour amongst manufacturers consists in heating an ore of manganese with hydrochloric acid (*spirit of salt*).

In speaking of the manufacture of soda by Leblanc's process my readers will remember that salt was heated with sulphuric acid to convert it into salt cake. Now during this process hydrochloric acid gas is given off and, in former years, was allowed to escape into the air, poisoning the atmosphere and destroying vegetation in the district around the works. The Government, however, stepped in, and passed an Act, known as the Alkali Act, which enforced a severe penalty on any manufacturer who allowed hydrochloric acid to escape from his works, and now the alkali maker condenses this gas by passing it through towers, down which water trickles. It is this acid liquid which is used to make chlorine gas. The lime is spread on the floor of chambers made of Yorkshire flagstone, and the gas allowed to act on it for about thirty-six hours. It is then ready for packing. As far as chemical composition goes, it consists of two salts, chloride of lime and hypochlorite of lime, in variable proportions. It is only the latter salt, however, which is available for bleaching purposes, for it,—in presence of an acid,—gives off chlorine gas. The process of bleaching is carried on as follows: the cloth is washed to remove "dressing" and greasy matters, and then steeped in a solution of lime, or, as it is more properly termed, "bleaching powder," and it is then immersed in dilute acid, which liberates the chlorine in the fibre of the cloth itself. It is again washed and steeped in weak alkali, and, if not white, is once more subjected to the action of weak bleaching-powder solution.

Washerwomen, not knowing the chemistry of this substance, simply steep the clothes in it; the bleaching action is slow, so that it is acting in the clothes for some time, and at last, when the desired effect is produced, they take no precaution for washing away the unused solution; the result is that the lime, chlorine, and hydrochloric acid are left in the fibre, and rot the cloth. Used in a scientific manner by skilful hands, chloride of lime is not such a destructive agent as is generally imagined; it is the careless and slipshod method in which it is used by those unacquainted with its properties, and who, as a rule, are not willing to learn or accept advice, that has given chloride of lime such a bad name.

Borax is the next chemical that claims our attention. Its use as a cleansing agent depends chiefly on its alkaline nature; it enters into the composition of many washing powders. It is found native in California and Thibet, and also dissolved in the waters of some alkali lakes in North America. Borax consists of soda chemically combined with an acid known as boracic acid, and it is sometimes formed artificially by boiling soda ash, and boracic acid together. Boracic acid is found in the waters of shallow pools in the volcanic districts of Tuscany. There are numerous openings in the earth in the district which emit steam, mud, and volcanic gases; the steam condenses, and the water thus formed contains the acid, which is procured by boiling off the water, or by allowing it to evaporate by the heat of the sun.

Borax is also used in starching, for it renders the starch more soluble in water and enables the laundress to use a stronger solution and gain more stiffening power. Starch itself is essentially an organic product, that is to say, it is a product of life, not that that fact precludes the possibility of making it artificially, for our chemical science has enabled us to make a number of substances artificially that were at one time only supposed to be produced by either animal or vegetable life. Up to the present starch has not been made artificially, but we know its constitution, and any day may see the problem solved and artificial starch put in the market.

Starch is almost omnipresent in the vegetable world, it is a constituent of the majority of plants of a higher organization, and it forms the principal bulk of the seeds of the cereal or grain crops. Rice and potatoes are chiefly used for making laundry starch, whilst cornflour, arrowroot, sago, tapioca, &c., consist of starch derived from special plants. In making laundry starch the potatoes are steeped in water containing a small quantity of soda, so as to dissolve the outside coverings of the cells which contain it, and the starch is washed away in sieves, and the milky fluid run into tanks to settle. It is there mixed with a little ultramarine or other blue colouring matter to make its whiteness more visible, and then dried into the irregular-shaped masses which we are accustomed to see.

Starch, when examined under the microscope, is found to consist of small granules of shapes varying with the source, so that it is possible by microscopic investigation to state with certainty the plant from which the starch has been derived. The outside of this little granule consists of a substance known as starch cellulose, whilst the inside is composed of a substance of similar composition but of different properties, known as *granulose*. On heating in water the cellulose coating splits open and allows the granulose to escape and form a gelatinous mass with the hot water, but in presence of an alkali the gelatinous mass becomes soluble, and it is for this purpose that the borax is used. The presence of a small quantity of solid paraffin wax increases the stiffening power and produces a glaze on the dried and starched linen, and many of the substances sold for glazing purposes are simply mixtures of paraffin and white wax, whilst others consist of paraffin wax alone.

Starch has many other uses besides that of the laundry, but we must reserve the other facts relating to its chemistry for some future article about food.

How They Manage These Things in Paris. — In Paris primary education is free, no fees having to be paid by the parents. Parents who fail to send their children to school are not summoned before a police magistrate; they are required to give an account of themselves to the Commission Scolaire, which is composed of ordinary citizens in the arrondissement. If it is then found that the father and mother are really too poor to provide their children with proper clothes, boots and clothes are at once provided for the children gratuitously. The same method is pursued with regard to the *cantines scolaires*, the school kitchens, which have been established in connection with some of the schools to provide meals for the children.

CHEMICAL ANALYSIS.—Dr. Drinkwater, Lecturer on Chemistry in the Edinburgh Medical School, undertakes the Analysis of Water, Foods, Wall-Papers, and of all other products and articles connected with Household Health and Commercial Interests. Terms on application to Dr. Drinkwater, Chemical Laboratory, 41, Chambers-street, Edinburgh.

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

MODERN VIEWS OF CONSUMPTION.

"The civilized world, medical and lay, is rather apathetic about consumption. It has gotten rid of the plague, and nearly rid of typhus epidemics; leprosy has been driven out of England, and small-pox has been made manageable. But one death in seven from all causes is still due to *tuberculosis pulmonum*, and some part of the remainder is due to other tuberculous diseases. If we feared these diseases as they merit, as we do the cholera or yellow fever, we would in time suffer less from their ravages. But we have strangely grown used to them, and view them with a sort of fatalistic indifference, broken now and then by a ripple of interest awakened by the discovery of some new fetish,—a wash-bottle, or an air-tight box, or some ingenious device, the impotent offspring of mechanical skill and ignorance of pathology" (*International Journal*, October, 1888).

"All observers agree," says Coats, "that at least half of the cases which die of phthisis pulmonalis, tubercular ulceration of the intestine is present. The lesion is due to tubercular material being carried into the stomach and intestine, instead of being discharged by the mouth."

Herterich relates an instance, by no means isolated, of a phthisical mother who had two babies, one fifteen and the other three months old. When suckled, these little ones did well; but after they were weaned, their mother used to feed them by partially chewing their food herself, and then putting it in their mouths. For a time all went well, but as her expectoration increased both children, as a consequence of this disgusting practice, began to emaciate, and died with tubercle in various organs, the mother surviving the children a few months (Smith).

Some time ago in the columns of Health there were given evidences of many forms of joint disease being tubercular in origin. Gerster, of New York, found that if ice-bags be applied to a tuberculous joint the disease is often retarded or arrested, for the consumptive germs do not thrive in the cold. And possibly this is why life in cold regions enjoys a certain immunity from consumption.

The following, quoted by Dr. Shingleton Smith from the *London Medical Record*, is interesting:—"The very numerous experimental researches in inhalation in tuberculosis show the way in which the disease arises locally along the respiratory tracts, the injection of pulverized tuberculous sputa into the trachea, by means of a spray-producer, giving rise to tubercular changes in the lungs in dogs and rabbits, whereas the injection of non-tuberculous material gave no such result."

There has been great activity in the search for agents and means of inhibiting the growth of the consumptive germ without injuring the system. So far the inquiry has not been crowned with phenomenal success, and our efforts are mainly directed to improving the nutrition and strength of the body, and thus enabling it to meet the demands made upon it. One thing the veriest tyro can see: in consumption there will be loss of fat and body-weight, unless the increased demands for food-fuel are fully supplied from without. Our sheet-anchor still is cod liver oil, and the truly scientific form of it to take is the Kepler Solution of Oil in Extract of Malt. With this the body-symptoms abate and the weight improves, and it should by no means be neglected even for a very short period.

OVERCOATS AND COLD.

THE teaching of modern science and of ancient custom, says the *Lancet*, goes to show that heat production within the body has much to do with the tissue changes concerned in muscular activity and with healthy digestion. It is conserved by warm and moderate, wasted in evaporation by excessive, clothing. Finally, by a simple nervous reaction, it is increased after the contact of external cold. It follows from these observations that, if we be so clad with comfortable underclothing that surface perspiration is not formed in excess and is rapidly removed, one great cause of chill,—sudden evaporation,—is done away with.

Outer cold, then, provided it is not too severe, only touches, as it were, the spring of the heat-making metabolism, and, exciting an elastic rebound in the chain of vaso-motor fibres, awakens that oxidative action by which every tissue is made to yield its share of heat to the body. This bracing influence is lost wholly or partly to those who are too heavily clothed, and in its place we may have a dangerous excess of surface heat. It is for this reason that we have before protested, as we now do, against the indiscriminate use of the thick and heavy overcoat. We would rather see men in fairly robust condition, especially if young, clad warmly next the skin, and wearing either a light top-coat or none at all.

There can be no doubt that the habitual use of great-coats is indirectly accountable for the chills which they are intended to prevent. Were the overcoat worn continuously it might attain its object. Its intermittent use, even when ample underclothing is worn, affords no solid guarantee of safety, but rather the reverse. The man of sedentary habits has especial need to remember this. He emerges daily from a warm breakfast-room clothed in his ordinary winter garments, with probably woollen under-wear, and over all the heavy ulster or top-coat. After a short walk he finds that the sense of warmth he began with is more than maintained. He arrives at his office or place of business, and off goes the overcoat, though the air of the newly-opened room is as cold as that without, and draughty in addition. During the day perhaps he travels to and from adjacent business houses, wearing only his house clothing. The overcoat is laid aside till closing time reminds him of the journey home.

The frequent result is that somehow between the hours of his departure and return he is chilled. No doubt he would run as great a risk, if lightly clad, were he to face the rigour of a winter day. In this case, however, exercise and habit might do much to develop the power of endurance, and there would, at all events, be less danger of sudden cold acting upon a freely perspiring surface. Woollen underclothing represents a state of healthy comfort intermediate between these extremes, and more resistant to chill than either. In commending its use, however, we do not assert that the influence of age and constitution is to be overlooked. Youth can oppose a power of resistance to depressing agencies which does not reside in the worn-out nerve centres of a riper age.

Similarly, that elastic reaction which characterizes the nervous and sanguine types is not to be looked for in the lax tissues of the lymphatic. The weaker physique naturally calls for fuller protection than the stronger; and any rule requiring the disuse of the overcoat should allow of reasonable exceptions in favour of the old and constitutionally feeble. Unusual severity of weather, especially if associated with night air and the loss of sleep which this implies, is another condition which might well constitute an exception. In such a case we are compelled to add some form of overcoat to the ordinary amount of clothing. Some parts of the body—for example, the chest, throat, and feet—are certainly more susceptible to cold than others. As a useful safeguard, cold or tepid bathing of such parts is in merited favour.

The custom so common with many persons, especially women, of walking out in thin-soled boots often plays an important part in catching cold. The progress of time and of rational thought may be expected to bring in a more comfortable arrangement by clothing the foot in woollen hosiery and a stouter boot.

PERSONAL STATISTICS.—The oldest Cabinet Minister is Viscount Cranbrook, G.C.S.I., Lord President of the Council, aged 74; the youngest is the Right Hon. Arthur James Balfour, M.P., Chief Secretary for Ireland, aged 40. The oldest member of Her Majesty's Privy Council is the Right Hon. Lord Cottesloe, aged 90; the youngest, the Duke of Portland, aged 31. The oldest Duke is the Duke of Cleveland, K.G., aged 85; the youngest, H.R.H. the Duke of Albany, aged 4. The oldest Marquis is the Very Rev. the Marquis of Donegall, aged 89; the youngest, the Marquis Camden (a minor), aged 16. The oldest Earl is the Earl of Albemarle, aged 89; the youngest is the Earl of Dalhousie (a minor), aged 10. The oldest Viscount is General Lord Templetown, G.C.B., aged 86; the youngest, Viscount Southwell (a minor), an Irish peer, aged 15. The oldest Baron is Lord Cottesloe (who is the oldest peer of the realm), aged 90; the youngest, Lord O'Hagan (a minor), aged 10. The oldest Member of the House of Commons is the Right Hon. Charles Pelham Villiers, M.P. for the Southern Division of the borough of Wolverhampton, aged 87; the youngest, Lord Walter Charles Gordon-Lennox, M.P. for the Chichester Division of the county of Sussex, aged 23. The oldest Judge in England is the Hon. Sir Henry Manisty, of the Queen's Bench Division of the High Court, aged 79; the youngest, the Hon. Sir Arthur Charles, D.C.L., of the Queen's Bench Division of the High Court, aged 50. The oldest Judge in Ireland is the Hon. John Fitz Henry Townsend, LL.D., of the Court of Admiralty, aged 78; the youngest, the Right Hon. John George Gibson, of the Queen's Bench Division, aged 43. The oldest of the Scotch Lords of Session is the Right Hon. John Inglis (Lord Glencorse), Lord Justice General, aged 78; the youngest, the Hon. Henry James Moncreiff (Lord Wellwood), aged 49. The oldest Prelate of the Church of England is the Right Rev. Richard Durnford, D.D., Bishop of Chichester, aged 86; the youngest, the Right Rev. Francis John Jayne, D.D., Bishop Designate of Chester, aged 44. The oldest Prelate of the Irish Episcopal Church is the Most Rev. Robert Bent Knox, D.D., Archbishop of Armagh, aged 81; the youngest, the Right Rev. Robert Samuel Gregg, D.D., Bishop of Cork, Cloyne, and Ross, aged 54. The oldest Prelate of the Scotch Episcopal Church is the Right Rev. Charles Wordsworth, D.D., Bishop of St. Andrews, aged 82; the youngest, the Right Rev. James Robert A. Chinnery-Haldane, Bishop of Argyll and the Isles, aged 47. The oldest Baronet is Sir Henry Chudleigh Oxenden, of Broome Park, Canterbury, aged 93; the youngest, Sir Stewkley F. Draycott Shuckburgh (a minor), of Shuckburgh, Warwickshire, aged 8. The oldest Knight is Sir Provo William Parry Wallis, G.C.B., the senior Admiral of the Fleet, of Funtington House, near Chichester, aged 97; the youngest, Sir Edgar Vincent, K.C.M.G., Financial Adviser to the Khedive of Egypt, aged 31.—*Who's Who in* 1889.

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"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

RHEUMATISM IN EARLY LIFE.

By HENRY DWIGHT CHAPIN, M.D.

THE morbid process known as disease presents many diverse manifestations. Even the same disease may show itself under various differing forms, and thereby produce some confusion in its recognition. Perhaps no influence is more potent in modifying the action of disease than age. It is not difficult to understand that the organs at five years of age should behave differently from those at fifty when attacked by a morbid agent. In general it may be stated that disease is more apt to be insidious and go unrecognized in early life than in later years. No better exemplification of this rule can be given than in the case of rheumatism. The popular impression,—which, indeed, may have been strengthened by certain medical opinions,—is that rheumatism is exceedingly rare in early life. In fact, however, it is very common, but differing much in manifestation from the same affection in later life. No great harm might result from this misconception, as rheumatism is usually very mild in young children, were it not that the heart is frequently attacked. It thus behoves us to have a clear understanding of the form that rheumatism is apt to take early in life. Early recognition and proper treatment will often prevent complications.

The Age of Attack.—During infancy the affection is exceedingly uncommon. One case has come under my observation at six months, one at eleven months, and another at twenty months, but such cases are so rare as practically not to concern us. The interval of time between the fourth and fifteenth year, a period of rapid growth, is more apt to see the development of the disease in the form it takes during childhood. If it occurs later than this it will present more the typical manifestations of adult life. Henoch, a German observer, finds that the majority of cases of acute rheumatism in childhood occur between the ages of nine and thirteen years, while it is rarer between the ages of five to eight years.

Symptoms.—A correct conception of a disease, as of anything else, may be prevented by a preconceived idea of its manifestation. The term rheumatism is apt to bring before the mind a picture of a person in bed suffering with redness and swelling of the larger joints, accompanied by fever and great pain, while the skin is bathed in a profuse, sour-smelling perspiration. Such a picture will be a correct one of many cases of adult rheumatism. We must, however, dissociate such symptoms from rheumatism when we begin to study it in early life. In most cases children with rheumatism are not sent to bed at all, or, at any rate, are only confined there for a day or two. The joint affection is not severe, and there is very little redness or swelling of the part involved in the disease. In most cases there is an entire absence of inflammatory redness. The pain is likewise not severe, and is noticed principally on exertion. In children old enough to give an intelligent description, there is frequently a complaint of stiffness and soreness upon exercising, rather than actual pain. Some children complain of general soreness and pains all over the body, without being able to locate them in any one particular spot. Many have pains of a more or less severe, irregular nature in various parts of the back and chest; such manifestations are very suggestive of rheumatism. In a majority of cases, however, some parts of the lower extremities are affected, particularly the knees, calves of the leg, and ankles. If the upper extremities are attacked, the elbows, shoulders, and wrists are oftenest involved. The well-known tendency of rheumatism to spread from joint to joint, or suddenly leave one part of the body only to attack another, is the same in children as in adults.

A rather typical picture is as follows: A young child is noticed to be slightly feverish, and may go about with a somewhat limping gait. Careful questioning brings out the fact that one of the knees is painful on exertion, and that the soreness extends along the muscles of the calf of the leg. An examination will probably reveal no redness, and very little or no swelling. Handling of the parts does not seem to cause much discomfort. In a few days an elbow or a shoulder may be affected in the same way. The appetite is poor and the tongue coated, with rather a foul breath. If no treatment is employed, this may continue for several weeks and then gradually disappear. The muscles of the neck are very apt to be involved in rheumatic children. Of the various forms of stiff neck, *wry-neck*, where the head is drawn to one side, is the commonest. This affection is nearly always of rheumatic origin.

The muscles around joints, and the lining membranes or sheaths of muscles and joints, are especially liable to attack.

Growing-Pains.—Mothers frequently speak of their children having growing-pains, as if it were a subject of no importance. As a matter of fact most instances of this kind are really rheumatism, and should have careful attention. The process of physiological growth should not be accompanied by pain. Doubtless in rare cases, where growth of the body is extremely rapid, some irritation may be produced in the ends of the bones where the increase in size takes place. But as a rule growth of bone is not accompanied by any more evidences of pain than growth of the hair or nails. In regard to wandering pains, it is evident that a certain limitation and care must be exercised before considering them rheumatic. Simple bruises and sores must be eliminated; also the muscular weariness developed in weakly children by over-exercise, the products of tissue change being imperfectly removed by the feeble circulation, with resultant irritation and pain. After playing very hard all day a child may complain of pains in the legs, but it is found they have disappeared after a good night's rest. Such pain, following over-exercise and disappearing after rest, cannot be considered rheumatic.

An injury will generally show some bruising or discolouration of the skin to account for the pain. Rheumatic pains usually go from one joint to another, or from one set of muscles to another, and exist independently of any such factors as injury or over-exercise. A pain that attacks a knee, then an ankle, and next the muscles of the thigh, calf, or neck, is almost surely rheumatic without other manifestation of the disease. Complete or partial disability may likewise be added to the pain in a part, without any swelling or redness. Rheumatic children often complain most of pain and stiffness just after rising, but after using their legs or arms for a time they seem to limber up somewhat. It is evident that a careful investigation should follow any complaint of wandering pains on the part of a child, rather than dismiss it with the phrase, "growing-pains," which may be thus used to cover an attack of true rheumatism.

Rheumatism of the Heart.—This phrase may mean an

inflammation of the inner or outer lining membrane of the heart that is produced by the rheumatic poison. The membrane lining the valves is the part usually affected. As a result, one or more valves may become partially retracted, thus allowing more or less regurgitation of blood, and thereby crippling the heart in its action. This constitutes the grave danger of rheumatism at any period of life, but most observers agree that the earlier the age the greater the risk of the heart becoming affected. Statistics show that this organ is involved in about one-third of all the cases occurring before puberty. Out of seventy-six cases that I have examined in hospital practice, twenty-six have had organic valvular disease of the heart. The symptoms of beginning acute heart trouble are less marked in children than in adults. The local and constitutional disturbances may not be very severe. Complaint may be made of some pain in the chest, accompanied by a short, dry cough, and palpitation of the heart. Often a sense of tightness or constriction of the chest is experienced rather than actual pain. There is apt to be breathlessness on any exertion, and the child is pale and appears sicker than before. On applying the ear to the chest a blowing sound called a murmur is heard in connection with the beating of the heart.

These symptoms may entirely disappear in a week or so, but a permanently injured valve can be left as a result. While the heart may be involved in the first attack of rheumatism, in most of my cases, as nearly as I could get at the facts, the cardiac affection seemed to come on after several attacks. It appeared as if the heart finally succumbed, unable to resist repeated attacks, just as one joint after another will yield to the disease. A little girl, six years of age, first had pains in the thighs lasting a week. Some months afterward she had an attack involving first the feet and next the hands. After another interval of months she had a rheumatic seizure in the knees, followed by slight pain and constriction in the chest. She was then sent to me for examination, which revealed enlargement of the heart and valvular disease. The lesson to be learned from such a case is that an early diagnosis should be made, and immediate, vigorous measures taken to combat the first manifestations of rheumatism in children, fearful that, although the heart may escape the first attacks of these mild pains, it may suddenly and unexpectedly become affected by an equally light manifestation of the disease. Goodhart, an English observer, states that it is difficult to say what proportion of heart cases occur as the direct outcome of one attack of rheumatism, or how far the damage results from some persistent state which slowly and surely cripples the valves.

(To be concluded.)

MESSRS. THOS. SYMINGTON & CO., Beaverbank Works, Edinburgh, have just received cable advice that they have been awarded three gold medals, at the Melbourne International Exhibition, for the purity and excellence of their "Edinburgh" Coffee Essences, preserved "Coffee and Milk," and "Perfect" Malt Extract.

"OLD man, for whom diggest thou this grave?" I asked, as I walked along; for I saw in the heart of London streets a dark and busy throng. 'Twas a strange, wild deed, but a wilder wish of the parted soul, to lie 'midst the troubled number of living men, who would pass him idly by! So I said: "For whom diggest thou this grave, in the heart of London town?" And the deep-toned voice of the digger replied: "We're laying a gas-pipe down!"

THE NERVES AND THE MOODS.

NOTHING in nature is more marvellous than the network of nerves constituting what we sometimes carelessly call our nervous system. Each nerve is a telegraphic cord in itself. Each is a part of the whole complex and inimitable system of telegraphy by which messages from the headquarters in the brain are sent to the minute stations in the extremities. If this telegraphic system of nerves were erected on diminutive poles outside of our bodies, it would be a most peculiar exhibit.

Happily for us, our nervous systems are, as it were, a harmonious arrangement of underground wires, carefully buried within us, and deftly concealed from outside observation. We cannot see them, nor know whether they are too slack or too tightly strained. We can tell when they are disturbed, for neuralgic agony shoots along their course from station to station. When we are glum and dismal and low-spirited, the telegraphic apparatus is out of order, and the nerve-forces are demoralized. When nerves work wrong, it is as when telegraphic poles are shaky, or wires tangled or crossed, or currents irregular, or batteries confused.

According to the irregularity of our nerves, so are our irregular moods. If all is right, we are happy and cheery and sunshiny. But let the batteries blunder, or the currents cross, or the wires become entangled, and we are irritable, sulky, ill-tempered, or angry, as the case may be. In some of our distressful moods we pout, and sulk, and misinterpret, and misunderstand. We take offence when no offence is intended, and we impute to others motives which are never conceived by them.

At times when the moods are out of sorts, we think the whole world is persecuting us, and we, the afflicted objects of persecution, are, above all other human creatures, singled out for martyrdom. There are circumstances under which most of us can, without insuperable difficulty, rise from the moodiness which is brought about by letting the nerves have their own way. Mental and physical diet has much to do with it. Brooding over real sorrows and imaginary miseries will make the best of us moody and wretched. Nursing grief and affronts and telling the sad story of our woes has as depressing an effect as narcotic drugs.

Sleeping in unventilated rooms often produces chronic wretchedness, even if these rooms be furnished with the appliances of wealth and refinement. Association with grim persons is depressing and dispiriting. Good health, mental, spiritual, and bodily, is worth working for. It casts out the malaria of moodiness, and lifts us into the sunlight of joy. Good health is more easily attained than most folks suppose.

BY warming the knife hot bread will cut as nicely as cold.

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Public Health

"Health is the first Wealth."—*Emerson.*

LONDON, ANCIENT AND MODERN, FROM A SANITARY POINT OF VIEW.

Dr. G. V. Poore, in a recent lecture at the Sanitary Institute, London, said that the mere age of London was one of the reasons why it became unwholesome. Roman London was buried deeply amongst rubbish of all kinds, much of which was putrescible, and, therefore, a source of danger in the soil.

Ancient London was well placed and magnificently supplied with water, for in addition to the Thames there were many streams, such as Westbourne, Tybourne, the Fleet River, Walbrook, and Langbourne, which originally were sources of pure water. All these brooks, however, had become disgracefully fouled, and for very shame had been covered over. One great drawback to the site of London was the proximity of marshy land on every side except the north-west, and formerly from this cause malarial fever and dysentery were great causes of the high death-rate.

In mediæval London, and even down to the eighteenth century, the houses were not so closely packed as they are now. Reference to Aggas's map (time of Elizabeth) would show that there was a great deal of garden ground within the City, and on comparing this map with Newcourt's map (Charles II.) it was evident that just before the plague and the fire the crowding of houses had become very much greater than it was in the time of the Tudor monarchs, who discouraged building near or in London.

Parker's map (1720) showed that after the fire the houses were not so closely packed as in the days of the Stuarts, for in this map a surprising amount of garden ground is visible within the walls. At this time also Moorfields was not built upon, and remained as a playground and air-space as it had done for centuries previously. That mediæval London was very unhealthy, a perfect fever den, there could be no doubt. The Black Death in 1349, and the Sweating Sickness two centuries later, were times of great mortality which struck the popular mind; but it was not till 1593, when bills of mortality were first introduced, that we began to have any certain knowledge of the amount or the kind of disease prevalent. There was reason to think, however, that in the eighteenth century (after the fire and the great plague) the deaths exceeded the births by about 600,000 in the hundred years.

The fatal diseases were mainly fevers,—malarial fever, small-pox, typhus, measles, and (latterly) whooping cough. The causes of the enormous mortality of mediæval London were due: 1. To the marshy, undrained soil, fouled with refuse of every kind. 2. The filthy state of the unpaved city, and a perfectly swinish condition of the houses of the lower orders. 3. The ill-nourished and drunken condition of the masses, among whom a taint of scurvy was very common. 4. The condition of superstition and brutality (as evidenced by the punishments and the pastimes) which made any measures of public health impracticable. 5. The management of epidemics was bad, with a total neglect to separate the sick from the sound; and, finally, the medical faculty were scarcely less ignorant and superstitious than their patients.

Turning to modern London, the lecturer said there had been a great and manifest improvement; but when we looked at the low figure which is called the London death-rate, several things must be taken into consideration, *e.g.*, 1. The London of the Registrar-General included large districts such as Lewisham, Wandsworth, Fulham, &c., which, in great part, were scarcely urban in character; and these being occupied largely by well-to-do persons, lowered the average death-rate for the whole city. 2. London being a city in which wealthy people abounded, its death-rate must not, in fairness, be compared to a city packed with undiluted operatives. 3. The mobility of the population was so great that this fact must vitiate our statistics, and it was to be remembered that nothing quickened the departure of an individual from London more than ill-health. 4. The age-distribution in London was very abnormal. It was largely recruited by selected adults from the country, and there was a great deficit in the extreme ages among which (the very young and very old) death-rate is always highest. 5. Again, the diminishing birth-rate (that for 1887 was 2·8 below the average of the previous ten years) very greatly diminished the death-rate in a city where 158 children out of every 1,000 die before they are one year old.

It was difficult to believe that Londoners were very robust when more than 25 per cent. of them had recourse to the public hospitals in the course of the year. The cause of the diminished death-rate (which was very considerably reduced after every allowance had been made) was due: 1. To the increase of knowledge, not only among doctors, but amongst the people generally; for we must remember that "self-preservation is the first law of nature." 2. Vaccination, and the modern plan of treating infectious diseases by the prompt separation of the patients, had done a great deal; the total absence of small-pox and typhus were mainly due to these causes. 3. The cheapness of food, clothing, and fuel had, of course, diminished the tendency to disease, and the ease with which fresh fruit and vegetables were to be got had abolished the taint of scurvy which was so fatal to our ancestors. 4. The water-supply had been improved, and the intake of the water companies was now removed to a portion of the river less tainted with sewage than that formerly in use. 5. Although the system of sewage-disposal was an undoubted evil, and had given us three or four epidemics of cholera, and was the foster-mother of typhoid, still, it was probable that, so far, the balance for good was in its favour, because it had removed a good deal of filth from dwellings.

The outlook in the future was dashed by three considerations:—

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"Isabella Thwaites."

1. Our system of sewerage and water-supply had increased overcrowding by enabling us to build houses of any height without inconvenience to the occupant, and without any curtilage whatever; and, since all sanitarians recognized that overcrowding was the greatest of all sanitary evils, it was impossible to shut one's eyes to this danger.

2. There was an expensive and menancing "loose end" to our sanitation in the shape of 150,000,000 gallons of sewage pouring into the Thames every day. The only proper destination of organic refuse was the soil, and it was not possible to see the end of the gigantic blunder we had committed in throwing it into the water.

3. The rapid increase of population along the valley of the Thames where sewage-disposal is on the same lines as in London, must make us apprehensive for our water-supply, because the various tricks played with sewage in the shape of precipitations, &c., were not, probably, of a kind to make the effluent a desirable or a wholesome beverage. If the evil effects of free trade are to be counteracted, it will be by returning the refuse of our towns, free of cost, to the impoverished agriculturalist. "If we go on as we are going," said the lecturer in conclusion, "and if our brethen in the colonies follow our bad example, as they appear to be doing, it will be a Chinaman rather than a visitor from New Zealand who will sit in contemplation on the ruins of London Bridge."

THE water-supply now proposed for Paris is to be taken from one of the Swiss Alpine lakes, Lake Neufchatel, 312 miles distant. Twenty-two miles of pipes must be carried through mountain tunnels. The expense is estimated at no less than $100,000,000.

WE are very sorry, says a medical journal, to see quasi-medical paragraphs in the newspapers recommend the use of hasheesh. Hasheesh is a form of Indian hemp in which the native narcotic principle is present, and inebriation by hasheesh leads to one of the most dangerous forms of narcotic poisoning. It is much to be regretted that any European physician should be found to speak lightly of it.

YELLOW FEVER.—Dr. G. M. Sternberg, who was commissioned by the College of Physicians, of Philadelphia, to investigate the methods of protective inoculation as practised in Brazil (by Dr. Domingos Freire) and in Mexico (by Dr. Cargona y Valle), reported that facts concerning the endemic and epidemic prevalence of the fever justify the belief that its cause is a micro-organism, which can, under suitable conditions, be propagated outside the body, as well as be capable of transport to a distance; also that, as a single attack of yellow fever, however mild, mostly protects from future attacks, there is reason to hope that such protection might be gained by inoculation. The yellow fever germ probably gains entrance into the body by the respiratory or alimentary tracts, or through the surface of the body, or it is possible that it multiplies in insanitary localities and develops a volatile poison which contaminates the air. The former hypothesis, that it enters the body and multiplies within it, is, he thinks, the more probable. Hitherto the germ has not been found in the blood and tissues of those attacked, for Dr. Sternberg does not confirm the alleged discovery made by Dr. Domingos Freire. Nor is there, in Dr. Sternberg's opinion, any satisfactory evidence that the method of inoculation practised by Dr. Domingos Freire has any prophylactic value, and the same applies to the claims put forward by Dr. Cargona y Valle, of Mexico.

Healthy Houses

"A happy home must be a healthy home."—*Anon.*

HEALTH, COMFORT, AND ECONOMY IN COTTAGE CONSTRUCTION.

BY J. CORBETT, SANITARY ENGINEER.

(Concluded.)

IN connection with smoke-flues, I strongly advise the provision of vent-flues from the upper part of each dwelling-room or bedroom. None of the outlet valves, from Dr. Arnott's original type down to the latest so-called "improvement," will practically work satisfactorily; but a much simpler and cheaper applicance has long been efficient. This is simply a short vertical tube, 4 or 6 inches diameter, built into the chimney breast or else placed besides it, open at one end to the room near the ceiling, and at the other end into the smoke-flue close to the fire-place. A regulation valve may be added if desired; and it is well to have a damper or fire-board to close the fire-place opening when out of use, so as to cause the whole draught of the flue to act in extracting the hottest and least pure air from the room, thereby having an important advantage over ventilation by the fire-place which carries off the lowest strata of air, the coolest and purest in the room.

An important economy of space may be effected in cottage parlour or bedroom fire-places by setting back the grate, &c., some six inches within the projecting chimney breast, turning the flue from the fire-place directly sideways into its smoke-flue, and forming an arched recess over the mantel, deep enough to contain shelves for ornaments, &c. A similar recess may be made over a cottage kitchen range, where bright pans, &c., can be kept.

For flooring of kitchens and sculleries flagging is a very cheap and durable material, but coloured tiling on a good concrete bed is far preferable in appearance, and but little more in cost. It is much cleaner and freer from chinks and cavities than boarded flooring, thereby reducing the liability of kitchens to mice, cockroaches, &c.

Popular taste will scarcely tolerate yet the use of hard brick window sills and door-steps, in place of the stone ones on which the cottage housewife expends so much bath-stone and needless work; but, in a brick-making district, economy should induce a preference for hard bricks set in cement for sills, &c.

In districts where stone walling is as cheap as brick-work and equally dry, it may be used with great advantage in appearance; and here again it will be well to study the bold and effective artistic features produced with almost unwrought stonework in many old buildings; the adoption of such homely features being much more suitable than the attempts at rich mouldings and even carvings found on some modern stone cottages.

Turning now to the carpentry and joinery, the most important question is the best form of flooring.

The common system of scant one-inch boards on joists at 16-inch centres has many serious faults, and I think that a modification of the plank flooring commonly used in warehouses would be far preferable.

For upper room floors in cottages, it would be usually a saving in cost to adopt plank flooring properly arranged. The width of room seldom exceeds twelve feet, and 3-inch planks would suffice for this bearing

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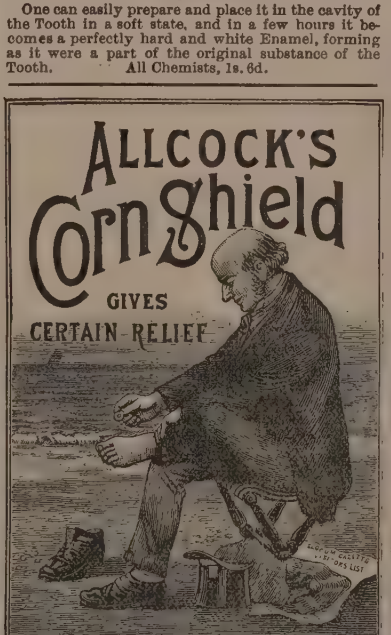

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if well-tongued and bolted together. By using 3½ or 4-inch planks, a very stiff and strong floor would be made.

Each room floor could be completely prepared in the workshop: the separate planks machine-planed, squared, and grooved; two 1-inch bolt holes bored laterally through each plank; iron tongues inserted in the grooves; bolts inserted from side to side of the set planks and screwed up tightly; the surface finally dressed off, and the complete slab of the flooring conveyed to its place and laid down on salient courses in the room walls prepared to receive it. The clink around the walls would be flushed with cement; and thus a strong, warm, draught-proof and vermin-proof floor would be made at a cost not exceeding that of a common floor and plaster ceiling. Such plank floors are more sound-proof than ordinary floors; they also save about one step in each flight of stairs and in the height of the walls. For the ground floors, usually supported on sleeper walls four to six feet apart, 2-inch plank flooring, grooved, tongued, and bolted through, would be much warmer than the usual 1-inch boards on joists, and very little more costly.

A similar economy of space and materials may be effected by forming slanting roofs of grooved and tongued boarding, carried on purlins, &c., at from four to eight feet span, without any roof spars. Very light boarding will suffice where inner ceilings are used; and where the roof forms also the ceiling, 1¼-inch boarding with roofing felt under the slanting, forms a warm and draught-proof structure at a moderate cost. Like the solid flooring, it has the important advantage of not harbouring vermin.

One of the weakest and most troublesome fittings in a cottage is the panelled door, with its casings, mouldings, lintel, wall-plugs or nogs. I suggest a means of simplifying and solidifying this complicated structure by forming the casing and mouldings of Portland cement, just as external cement mouldings are formed. The door hinges and lock plates to be screwed to fixing-blocks built at definite heights in the walls.

Window casings and mouldings for hinged or sliding casements might be similarly made of Portland cement.

Wood lintels and bond timbers, which often injure a wall by shrinking, and thus causing settling cracks, may be advantageously replaced by very light 4½-inch rolled iron joists, laid flat, so as to bond the brickwork. These would suit well to the cement casings above described.

Wood skirtings would be replaced by cement with the same advantages as above described for door and window casings and mouldings.

Wood shelving could be replaced by light cast iron, protected by the Bower-Barff process of bi-oxidation, to prevent rust; and these shelves could be directly built into the brickwork.

Plastering of walls should be substituted by a thin facing of cement, the brickwork being more evenly set than usual, so as not to require much thickness of cement to form a true surface. This cementing would completely prevent any piercing by vermin.

The interesting examples of ideal furniture and structure for cottage homes exhibited in the present Manchester art museum in Ancoats, and at other exhibitions, give many excellent hints for practical use; but too often they are encumbered by fantastic cupboards, tables, &c., that would ill stand the trial of rough every-day use.

Still, we may hopefully notice that the rapid spread of education and a higher civilization among the working classes is fostering in them a taste for more elaborate cottage furniture, and this improved taste warrants the introduction, in cottage building, of refinements and elaborations which but a few years since would have met with no appreciation.

Wherever cottage dwellings are massed in large numbers, and especially where they are built near a manufactory using steam-boilers, it would promote health, comfort, and economy to supply a limited amount of steam-heating to each cottage by means of an oven enclosed in a steam-casing, in communication with flow and return-pipes from a steam-boiler.

Each oven should be about fourteen inches cube inside, with an ordinary iron door; the oven enclosed in a fifteen-inch cube; the intervening space constantly filled with super-heated steam at a moderate pressure, so as to maintain an ample heat for boiling in the oven. This arrangement would prevent any waste of steam, while yet providing an ample heat for the following services:

On rising early in the morning a hot breakfast could be prepared without waiting to light a fire. A can of water could be heated for washing the pots, the floor, &c. On washing days the clothes could be boiled and presently aired or dried. Dinner might be completely cooked with ample variety, including boiling or stewing, and baking of puddings, cakes, or bread; these last only requiring a finishing browning, which would be effected, as would the roasting of meat, &c., by lighting a large gas-jet to supplement the steam-heating of the oven. The room might be sufficiently warmed during cool evenings by opening the oven-door, and thus letting hot air circulate into the room. Tea or coffee could be most perfectly prepared. Hot water for an evening bath for either children or parents might be provided; the scullery or bedroom being used as a bath-room. Infected or unduly inhabited clothes might be purified without risk of burning them.

All these advantages might be provided at half the cost now expended in fuel, by the well-known economy of having one large fire properly used in a furnace, instead of many small fires wastefully used in open grates, which also involve much dirty work and waste of time. Domestic fires being thus almost superseded, the smoke nuisance would be reduced to a minimum, and thus cleanliness, culture of gardens, enjoyment of open air, and many other advantages would be secured.

Almost every town cottage in this district has a constant-supply water-tap placed over a slopstone in its scullery. It would be a great improvement to replace the porous and rough-surfaced slopstone by a glazed earthenware washing sink, capable of being kept clean and sweet.

As to closet arrangements, it is not difficult to construct simple and efficient tub-closets, but after inspecting thousands of cinder-sifter and other such closets, I conclude that they are not satisfactory with ordinary careless and rough usage. I am strongly of opinion that simple hopper and trap water-closets are the least objectionable and most economical appliances for their purpose.

Time does not permit of my entering on other departments of cottage construction, though the subject is of such extremely wide interest as to encourage its complete discussion; and I conclude with the hope that these suggestions may result in some practical improvements in the homes of the working classes.

Never put the sweepings of the room into the waste-paper basket.

A UNIQUE KITCHEN.

THERE is a unique kitchen worthy of description, says the Philadelphia *Press*. It is not large, having been built to fit a very little woman. The pantry is to the rear of it, the dining-room to the right, the hall in front, and all outdoors to the left, though it stands on a narrow city lot. The kitchen projects beyond the hall, giving room for a door in front, and there is a second door in the rear leading to a back porch and garden. The range chimney stands against the outer wall, and from door to door in summer the breeze blows perpetually past it. There are windows according to circumstances: some high, some low, some big, some little, some in the upper panels of the doors. This temple of the household gods is finished entirely in wood, for æsthetic reasons quite as much as utilitarian. Wood finish means that not an inch of plaster appears. Ceiling, walls, and floor are all of delightfully-polished yellow pine. The casings of doors and windows are flat for ease and washing, and all the joints are tight as tight can be. The work was done slowly and carefully, under the supervision of the presiding genius; and while perfectly plain, as befits a kitchen, makes a really beautiful apartment,—the veining of the wood, the rich colouring, and the lingering forest odour suggesting pleasant thoughts and typifying the home of the lady who joyfully gives bread to her house, rather than the drudgery of menial toil so often put forward in its place.

The laundry tubs and the sink are of solid white porcelain. But the wonderful economies of space and numerous step-saving devices are the features of the place. There are slides from the pantry to the dining-room sideboard. There are shelves in the triangular space over the cellar stairs. There is a table which pulls out of nowhere, just opposite the range, and vanishes into thin air when the cooking is done. There are flour bins which swing out into the room when wanted, and push in flush with the wall again. When the mistress of the establishment wishes to put anything "down cellar," she doesn't go down herself, though the stairs are of a gentle slope and easy of access. She touches a mysterious lever with her hand or foot, and up comes a section of the kitchen floor, bringing with it a series of shelves. Disposing of various articles thereon, she reverses the lever, and down goes the whole thing. The floor is as solid as ever, and the shelves are hanging in the dry cool of the cellar. Fearful and wonderful contrivances of this sort meet one at every hand.

Costly? Not at all. Economy and convenience were the two prime considerations. The house was built by an artist, who planned first the kitchen,—his wife's workroom,—then the studio,—his own,—and let the rest of the house group itself around these two. The kitchen cost no more in money than the most dingy type of city-basement, and its owners call it worth all that it cost of ingenuity.

REMOVAL OF OLD VARNISH.—A Mr. Meyer has just patented, in Germany, a composition for removing old varnish from objects. It is obtained by mixing five parts of 36 per cent. silicate of potash, one of 40 per cent. soda lye, and one of sal ammoniac (hydrochlorate of ammonia).

PILES.—Dr. Kelsey, a well-known New York rectal specialist, has been exceptionally successful in treating piles by the injection of carbolic acid. According to Mr. Swinford Edwards, the best solution for injection is composed of carbolic acid, twelve grains; and glycerine and water, of each, one drachm. Of this solution two to five minims should be injected into the centre of each pile.

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sydney.*

Vocal Music as a Preventive of Consumption.—A suggestive paper by Dr. C. E. Busey, of Lynchburg, was lately read before the Medical Society of Virginia. He stated as a well-known fact that those nations which were given to the cultivation of vocal music were strong, vigorous races, with broad, expansive chests. If an hour was daily devoted in our public schools to the development of vocal music, there would not be the sad spectacle of the drooping, withered, hollow-chested, round-shouldered children. There was too great a tendency to sacrifice physical health upon the altar of learning. Vocal music was a gymnastic exercise of the lungs by development of the lung-tissue itself. The lungs in improved breeds of cattle, which naturally took little exercise, and were domiciled much of the time, were considerably reduced in size when compared with those of animals running at liberty; and so it was with the human race, which led inactive lives from civilization. Phthisis generally began at the apices of the lungs, because these parts were more inactive, and because the bronchial tubes were so arranged that they carried the inspired air with greater facility to the bases than to the apices. During inactivity, a person would ordinarily breathe about 480 cubic inches of air in a minute. If he walked at the rate of six miles an hour, he would breathe 3,260 cubic inches. In singing, this increased more than in walking, as to sing well required all the capacity of the lungs. The instructor of vocal music, in addition to his musical education, should understand the anatomy and physiology of the respiratory organs.—*New York Medical Journal.*

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The Human Struggle for Existence.—The Malthusian theory was the subject of a discussion at the British Association. A paper by Mr. Edwin Chadwick went to show that, where wages increase, the pressure of population on means of subsistence is diminished; that, instead of the cost of production of land being fixed, it is generally reducible by science and machinery, while the amount of production may be everywhere augmented; and that, instead of pestilence being a natural check on population, it does not diminish its pressure, but serves to weaken the population and diminish its productive power and increase its pressure on the means of subsistence. The author could not descry the limits of a further advance of prosperity in the country with a further increase of population. Mr. Park Harrison thought that war was not an unmixed evil as a factor of population, and that it was interesting to note the care we took at present at vast expense to enable miserable specimens of humanity to survive and increase that part of the population which is really the main element of the unemployed. The members of society thus produced were perfectly incapable subjects, carefully nursed, and brought up as if they were going to inherit large estates. Natural selection should be allowed to have fair play. It was interfering with the laws of nature to do so much in the direction of perpetuating the survival of the unfittest. Mr. W. L. Bros said that in old times war, by the operation of the rules that prevailed, eliminated the weakest members

of society; but, by the system of fighting in the nineteenth century, the soldier should be a picked man of the community. The population, therefore, which suffered from war lost its best, not its worst members. War also added largely to the disproportion in the numbers of the sexes, and meant the prevalence of many social irregulaties which tended to degrade the community as a whole, and to cause the survival of a lower type. Sociologists believe that the commercial competition of the present day is acting very much as war used to act in earlier days. The strong, the competent, and the mentally and physically efficient are succeeding in the struggle for life; the feeble in mind and body and in resources are being eliminated by industrial competition. It is desirable, in the interests of the health of the community, that this competition continue. Another speaker maintained that the children of the working classes did not, as a rule, contribute to the lazy population of the country. A poor man with six daughters practically owned a fortune, because they could become useful servants; and if he had three or four sons, the young men could obtain work if capable of it. It was the middle and higher classes who contributed to the surplus and lazy population. This could be seen by the large number of genteel young men who every day crowded after a vacant clerkship. Parents should not be afraid to bring up their sons to learn a useful handicraft.—*Popular Science Monthly.*

Hot-air Inhalations in Phthisis.—Two German observers, or, to speak more correctly, two observers in Germany, have, independently of one another, been engaged in investigations on the bactericidal property of heated, dry air, and on the methods of utilizing this property for the practical treatment of phthisical patients. Dr. Weigert, who appears to be an American living in Berlin, finding that tubercle bacilli outside the body die at a temperature of 41 degs. C., and are adversely affected by one of 38 degs., had constructed an apparatus for the inhalation of heated air, and commenced to make trials on phthisical patients in the early stage recommended to him by other medical men, he himself not being in practice. At first a temperature of from 40 degs. to 60 degs. C. was employed, the air for inhalation being quite dry. This temperature was gradually raised as high as 80 degs. C. The patients bore this hot, dry air exceedingly well, and continued to inhale it for three or four hours a day during a month, the only unpleasant effects produced being hyperæmia and dryness of the mucous membrane. The general effects are represented as having been remarkable, patients who had been falling away picking up strength and becoming quite robust, the physical examination showing, at the same time, that the dulness and râles had perceptibly decreased. The bacilli in the sputum, which had been very numerous, rapidly diminished in number, and finally disappeared altogether. These observations were confirmed by several other medical men. Dr. Halter, of Lengerich, Westphalia, seems to have gone even further than Dr. Weigert, he having himself inhaled, and caused patients also to inhale, dry air heated to 190 degs. C., with satisfactory results.—*Lancet.*

Origin of Strong Liquors.—Strong liquors are a modern invention. The ancients knew of nothing more powerful than lightly-fermented wines, and have left warnings enough of the abuse of them. Alcohol was not discovered till the seventh century, although an older story exists of a monk, Marcus, who collected and condensed in wool the steam of heated white wine, and then pressed out from the wool a balsam which he applied to the wounds of those who fell at the siege of Rheims, in the reign of Clovis I. He also mixed this balsam with honey and produced a cordial which brought the moribund back to life. Clovis, however, did not wait for the approach of death before claiming his share of the cordial. According to Dr. Stanford Chaélle, the distillation of spirit from wine was not discovered until the twelfth century, and spirits did not come into common use until the fifteenth, sixteenth, and seventeenth centuries. Professor Arnoldus Villanova, in the fourteenth century, made a panacea of the water-of-life, which gave sweet breath, and fortified the memory, besides being good for sore eyes, the toothache, and the gout, and having other wonderful properties. Distilled spirits came into use in London in 1450, and had to be prohibited in 1494. Michael Savonarola produced a treatise on the making of the water-of-life in the fifteenth century, which became a standard authority on the subject, and was followed by the work of Matthioli of Siena. These books gave the start to brandy-making in Italy, whence the trade extended to France. About 1520 the Irish usquebaugh began to acquire reputation in England. Before 1601 "brand-wine" had begun to be distilled in the Low Countries from apples, pears, and malt, and in that year an ordinance was passed at Tournay forbidding the sale of the liquor except by apothecaries, "partly because of the dearness of corn and partly because of the drunkenness which this cheap brand-wine caused, to the great prejudice not alone of homes and lives, but to the extreme danger of the souls of its drinkers, many of whom had died without confession."

The Carbonic Acid Industry.—In the course of the last two years, in consequence of the expiration of the patent for the manufacture of carbonic acid, eight new factories have arisen, so that there are now nine in all. The oldest and originally sole factory is the Aktien-Gesellschaft für Kohlensäure Industrie in Berlin, which has also a branch factory on the Rhine, and, in all, produces double as much as all the eight factories which have since started up. The yearly sales of the Berlin company amount to about 500,000 kg., while the consumption in Berlin is only 70,000 kg. This fact proves that the Berlin factory has succeeded in extending its sales over the whole of Germany and also abroad. Owing to being engaged in the manufacture of carbonic acid both in Berlin and on the Rhine, the company is naturally in a position to supply all parts of Germany, and to profit from the most favourable freightages. In the same degree as the sales have increased the prices have gone down. Two years ago the eight-kg. bottle cost sixteen mks., and now its wholesale price is from five to seven mks. The principal consumers are the mineral-water manufacturers, who are nowadays able to purchase liquid carbonic acid more cheaply than they can make it themselves. In restaurants and beer-houses, liquid carbonic acid is also becoming daily more and more popular. One eight-kg. bottle about thirty hl. is required for thirty hl. of beer or 7,000 $\frac{4}{10}$ litre glasses, so that the extra cost per glass occasioned by the carbonic acid is only $\frac{1}{10}$ pf. per glass, an expense willingly borne by the better class of publicans. In Berlin and Central Germany liquid carbonic acid is prepared by a chemical process. The Rhenish manufacturers obtain it from the interior of the

so-called volcano Eifel. For the future, it seems likely that the sale of carbonic acid will increase enormously, but at present the profits on its maunfacture bear no proportion to those obtained some years ago.

Magazines of the Month.—*Harper's Magazine* for February contains a series of most interesting papers, those on "Dakota," and "The Hotel Drouot," and "Norway" being the most interesting. The attempt of Amélie Rives to write Scotch songs is a dismal failure. *The Housewife* for February is full of interesting matter, although the attempts to delineate character, which appear month by month, in our opinion, are simply a sop to the caterers of popular superstition. *Belgravia* is a bright number in respect of its fiction; and *The Gentleman's Magazine* offers solid and interesting fare to its readers. The paper on "Force, and its Distribution in Man," is the best of the articles in the latter magazine.

Our Letter-Box

"Conference [maketh] a ready man."—*Bacon.*

NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including Books for Review, Specimens of Sanitary Appliances, &c.), to be addressed to "The Editor of Health," 2, PATERNOSTER-SQUARE, LONDON, E.C. *Those intended for the Publishing Office to be sent to* Mr. A. P. Watt, The Publisher, *at the same address.*

Nervous Exhaustion.

PULVERMACHER'S World-Famed GALVANIC BELTS for the Cure of Nervous Exhaustion and Debility, have received testimonials from three Physicians to Her Majesty the Queen, and the leading Physicians of nine London Hospitals, including over Forty Members of the Royal College of Physicians of London.

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For full Price List and particulars, see New Pamphlet, **"GALVANISM: Nature's Chief Restorer of Impaired Vital Energy."** Post Free from

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RULES FOR CORRESPONDENTS.

Owing to the mass of letters which reaches us each week, we respectfully direct the attention of Correspondents, desiring replies in the Letter-Box Department of Health, to the following rules:—

1. **All questions are answered free of charge in the columns of Health. A limited space only, is available for the insertion of replies each week.**
2. **All letters must be legibly addressed to "The Editor of Health, 2, Paternoster-square, London, E.C.," *and to no other address.***
3. **Questions to which answers are desired by post, are so replied to solely at the Editor's discretion. If no answer is sent by post, the query will be replied to in the "Letter-Box" columns of Health. A stamped addressed envelope must accompany all queries to which a private reply is desired.**
4. **Addresses of physicians and surgeons will, as heretofore, be forwarded free to Correspondents on their enclosing a stamped addressed envelope for reply.**
5. **Correspondents are requested to write on one side of the paper only, and to make their inquiries as brief as may be consistent with clearness.**
6. **From the necessity of sending Health to press early in the week, no Correspondent can be replied to in the "Letter-Box" columns in the same week in which the inquiry is received. Replies crushed out of any issue will be found in the succeeding number.**
7. **No Post Cards must be used in sending queries. Violation of this rule deprives the sender of the privilege of a reply.**

QUERIES AND ANSWERS.

REPLIES: GENERAL, SANITARY, AND MEDICAL.

[Readers of Health will kindly note that when back numbers of the journal are desired, the letters containing such requests and stamps for the numbers should be addressed to the Publisher of Health, 2, Paternoster-square, London, E.C., and *not to the Editor.*]

H. J. W. H.—The fault may not be on your side. We advise you to read the pamphlet recommended to "Thermo" in the present number, and to follow out the directions given therein regarding diet, cold or tepid sponging each morning, and tonics. The Syrup of the Hypophosphites, as ordered in the pamphlet, should suit your case. If not bettered, write again in a few weeks, and send stamped addressed envelope, re-stating your case at the same time.

H. T. R.—In your case, we advise you to try two Cascara Tabloids or twenty drops Cascara Cordial between meals, once daily, in water. For the rest, try to rest after your meals, and avoid excess of vegetable foods. If your symptoms continue, stop the Cascara and try the following pill:—Extract of Barbadoes aloes, two grains; extract of nux vomica, half a grain; extract of gentian, a grain and a half. Make a pill. One such pill to be taken once a day, half an hour before meals. Get half-a-dozen such pills from your chemist, and try one each day, as ordered.

Socius.—Try the following mixture:—Bicarbonate of soda, two drachms; dilute hydrocyanic acid, twelve minims; compound infusion of gentian, to eight ounces. Mix. Take a tablespoonful twice daily, an hour before meals.

J. Jeffrey.—The only sure plan is to go to a surgeon and have the wart snipped off. No other mode of treatment will be successful. All remedies,—such as applying tincture of iron or aromatic vinegar,—can only irritate the nostril, and the cure is worse than the disease in such a case.

Elegy.—1. The child should have Mellin's Food regularly till it is eight or nine months old, along with one cow's milk. No starch must be given at all. 2. No; it is at best a bad substitute.

A. J. P.—Call on Mr. Pulvermacher, 194, Regent-street, London, W., and consult him as to the necessary electrical apparatus for your case. In our experience your cure will be effected most readily thereby. You must also take more open-air exercise, and you are decidedly low in tone, a condition which favours the symptoms you describe. Take a tepid sponge-bath every morning, and try fifteen drops Fer Bravais, twice daily, after your food, in water. Write again, if not cured.

E. F. H.—When you are troubled with your symptoms, take a dose of Lamplough's Pyretic Saline in the morning, and eat little or no butcher-meat for a day or two. Take white boiled fish and vegetable food, the latter to be well cooked. In all bilious conditions butcher-meat is injurious. Take Grant's Oat Flour and milk-puddings, and eat stale bread only.

J. W. T.—Try the lotion ordered to "Alice Calver" in the present number. Read HEALTH, No. 199, as it is possible you suffer from acne or "blackheads" in the skin. Use the Oriental Aromatic Salts, added to the water you wash with,—see advertisement in our pages.

TÆDIUM VITÆ.—Read the pamphlet recommended to "Thermo" in the present number, and follow out its directions.

KAPPA DELTA.—Try the effect of giving a teaspoonful of Syrup of the Hypophosphites in a wineglass of water, between meals, twice daily. Give little vegetable food, and make the patient daily have Brand's Beef Essence, which can be taken simply in teaspoonfuls, cold, out of the tin. If these means fail, write again.

ANXIOUS.—Feed the child on Mellin's Food only. It is non-farinaceous and perfectly safe.

ABEL W. R.—Woodward's Gripe Water should be used, and kept in your house as a safe infant-medicine.

TESTA.—In such a case we should advise you to try the effect of taking twenty grains bromide of potash in a wineglass of water twice daily when the pains are severe. Use Elliman's Embrocation as an outward application regularly night and morning.

CORNISH.—Wear a suspensory bandage; avoid constipation; and bathe the parts night and morning with a lotion composed of one part Hazeline added to five parts cold water.

G. P. M.—Touch the spots with a crystal of sulphate of copper, and wash out the mouth twice or thrice daily with a little chlorate of potash dissolved in water. You may probably be benefited by taking at intervals (for a week or so at a time) the following mixture:—Iodide of potass, a drachm and a half; infusion of calumba, six ounces. Label: "A dessertspoonful thrice daily."

A. TAIT.—Try the following ointment:—1. Gall and opium ointment, to be had at any druggist's; or (2) acid tannic, twenty grains; bismuth subnit., one drachm; pulv. opii., ten grains; paraffin mollis, one ounce. Mix, and label: "For external use; to be applied on a piece of lint."

E. REID.—Read the pamphlet, "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.), and follow out the treatment there prescribed.

NOX.—For the thread-worms, try injections of infusion of quassia or of cold tea. Attend to the purity of the water drunk, and to the cleanliness of all vegetables which are eaten. Give plenty of salt with the food. A grey powder given occasionally will assist the cure. Another cure is to use an injection of half an ounce of the tincture of perchloride of iron to a pint of water, as a cure for thread-worms.

B. F.—Your case is one for the advice of a competent physician. No one can do you the slightest good without a personal examination, and you can easily understand this. The want of movement may well account for the thinness you observe.

C. E.—Try, first, pressing out the blackheads fully, and then sponging the skin with Bayley's Eau de Cologne or Toilet Vinegar and water. Look to the state of your skin, and see that you take warm baths occasionally, to favour the action of the sweat-glands. Avoid excess of fatty foods, and let your diet be plain and non-stimulating.

JUNCTA.—Try the effect of giving the patient twenty drops of Collis Browne's Chlorodyne, when the symptoms are severe, in a little water; and repeat the dose in four or five hours, taking not more than two doses per day, and only on alternate days.

A. FAIRLEY.—A calculation has been made that at twenty-five years of age the male human body should weigh on an average 145·6 lb., and the female 120·5 lb. In relation to height, it is calculated that a man of 6 ft. should weigh 178 lb., and a man of 5 ft. 6 in. 145 lb.

PETER HAY.—You may with perfect safety take Cascara Cordial in doses of twenty drops in water, between meals, once or twice daily. Eat stewed fruits, vegetables, and whole-meal bread, and avoid tea and coffee, and take Dahl's Cakes regularly.

LORNE.—The only true remedy is that of having the hairs removed by electrical treatment. We can send you address of a specialist in skin diseases who can effect a cure in this way. All depilatories only remove the hairs for a time, but do not touch their roots.

M. A.—For the itching try the following lotion:—Bicarbonate of soda, one drachm; glycerine, an ounce and a half. Mix. Apply the lotion after washing. If this lotion does not cure the ailment, substitute for it the following:—Pulv. calamin. ver., two drachms; pulv. oxid. zinc, one drachm; glycerine, half an ounce; aquæ camphor. ad., six ounces. Mix. Label: "For external use only."

MABEL VANE.—Superfluous hairs can only be satisfactorily (and painlessly) removed by electricity. Send 4½d. in stamps to the Publisher of HEALTH, and obtain a copy of No. 149 of this journal, and read the article therein given on this method of removing hairs. We can send you address of a specialist who removes hairs in this way on receipt of stamped addressed envelope.

PRINCESS.—Send us a stamped addressed envelope, and we will give you address of a reliable physician, who will advise you. In such a case as yours a good opinion will relieve your mind and put you in the way of a cure.

MANCHESTER.—You should consult a surgeon, and be advised by him as to the boots you require. You should sit and sleep with some object, such as a book, tied in between your knees. Look to your general health, and take Parrish's Chemical Food after meals—a teaspoonful in water.

READER FOR TWO YEARS.—In a case like yours, we recommend you first of all to go to the seaside for a complete change—Bournemouth or the Isle of Wight will suit you in winter; and, secondly, at dinner daily take a little stout or good claret, as may be most agreeable to you. Your system requires strengthening. After your meals take fifteen drops of Wyeth's Dialysed Iron, in water. Your food is to be of generous character: drink plenty of new milk and cream, and eat a fair proportion of flesh food. By such measures you should be restored to health—the change of air being the first consideration. Write again if not cured.

JUNO.—You will find full information in the pamphlet, "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.).

HEADACHE.—Try the effect of taking two five-grain Antipyrin Tabloids (Burroughs, Wellcome & Co.'s; to be had of any good druggist); and if the headache is not relieved, take other two tabloids after two hours' interval. You have been taking a good tonic, so it is evident your headache is not due to want of such a remedy. If not cured, write again.

ALICE CALVER.—Try applying a lotion composed of one part Friar's Balsam to nine parts of rose water. This is a harmless skin-application, but we warn you against supposing that anything can "whiten" the skin artificially and not injure it. You should trust to good health and baths to keep your skin in order; and the sooner you give up using chalk, or any other preparation of that kind, the better for your future health and appearance.

LEMON.—[Will you kindly address your letters properly in future? You write to our former office and thus cause needless delay and trouble.] Lemons have no special use or advantage in biliousness, and are apt to derange the stomach further in cases of dyspepsia. Your best plan is to follow the advice given to "Queeny" in last week's HEALTH, and take the Cascara and diet there prescribed. A great deal of nonsense is talked (and believed) about lemons and their juice as remedies.

FEATHERS.—You were replied to last week under your own name. Your second letter arrived too late to change it for the *nom-de-plume*.

RUBY.—The expense depends on the number of hairs to be removed. It is both painful and harmful to pull hairs forcibly out of the skin. Only a specialist in electrical science, as applied to medicine, can remove hairs skilfully and well.

CULM.—Number one assuredly: it is reliable and powerful in action.

DEW.—See and follow advice given to "Queeny" in last week s HEALTH.

ANXIOUS PATERFAMILIAS.—What you name in addition to being unsatisfactory is apt to induce nervous symptoms. There are surely other methods known to you of more satisfactory character. There is no question of morals involved in the matter at all; it is only a question of mutual agreement. The immorality consists in the incurring of obligations which people are not able to discharge. See HEALTH No. 299 for an article on the question to which you refer.

R. S. S. S.—We strongly advise you to continue treatment under the care of your physician, and be guided by him in all things. The use of the battery could certainly do no harm.

HOPEFUL.—You are right in your surmise; the matter is largely one of moral control, but it is aided and elucidated by scientific considerations which render the aim named by you capable of being practically carried out. The topic, as you say, could not be thoroughly discussed in a journal of this kind. It is treated very fully in many books.

WILLIAM H. LEWIS.—1. For the treatment of thread-worms, see advice given to "Nox" in the present No. of HEALTH. You should follow advice given to "Queeny" in last week's HEALTH, and cure your constipation, which is at the root of your troubles. 2. See advice given to "E. Swann" in last week's HEALTH.

THERMO.—Read the pamphlet, "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.), and you will find all necessary information given you therein. You need have no fears or anxiety, as the pamphlet will show you; but the one necessary condition is the entire relinquishment of the habit, as a preliminary to your settling in life.

STUDENT.—Give up reading and writing at night especially, and bathe the eyes night and morning with a little of a lotion (diluted with water) made by adding six grains sulphate of zinc to six ounces of rose water. Internally, take the tonic ordered to "J. Angus" in last week's HEALTH.

W. HAIG.—Your diet and want of outdoor exercise are together at the root of your troubles. We advise you to adopt the rules given to "Queeny" in last week's HEALTH, and lay special stress on the Cascara, as inducing regular action. It is your constipation which is at the root of your troubles. A tepid sponge-bath in the morning will do you good. See also that you rest after your food. Write again, after a fair trial of this advice.

C. BARCLAY.—Try Mr. Forsyth's Woollen Clothing (13, Renfield-street, Glasgow). Your rheumatism, by your own showing, arises from imperfect clothing.

HOPEFUL (Glasgow).—Possibly, the change from country to town affects you, but if so you will soon get over your symptoms. We advise you to take twenty drops Extract of Cascara, or two Cascara Tabloids, between meals, once or twice daily. Let your diet be of very simple nature, and avoid much flesh food for a time. Take Scott's Oat Flour to breakfast in place of tea or coffee; while a tepid sponge bath each morning will be likely to assist your cure.

F. B. W.—Follow advice to "Hopeful" given above. Avoid late suppers and look to the ventilation of your bedroom first of all. Care in diet (as above directed) is what you require; but if not cured, write again.

REX.—1. In the morning. 2. Not entirely; but it may be taken twice a week with advantage in place of meat. 3. It is, perhaps, more easily digested than oatmeal. Try Neave's Food.

C. C. ROBINSON.—If you do not exercise common cleanliness, and wash the parts each morning with soap and water, you must expect to be annoyed as you are.

SIX YEARS' SUBSCRIBER.—You should have described the cause of your ailment, and given particulars of your life, food, &c. As it is, the cure is rest, simple milk-diet for a time, avoidance of alcohol, and an injection morning and night of tepid water to which a little Condy's Fluid has been added. Potash Water should be drunk freely; or, if there is any pain, take twenty grains citrate of potash in a tumbler of water, twice daily, between meals. Avoid constipation, above all. The existence of swelling points to some infection or other. Rest will probably cure this latter condition.

MERCURY.—1. Not permanently, certainly; but you cannot be sure of perfect cure under three or four years at least, assuming the disease has been of the ordinary type. You should continue to see your medical man at intervals, and you must attend well to your general health. 2. No need to do so if you are cured; if not cured, you have no right to think of such a thing. 3. The best book is by Fournier, of Paris. It has been translated into English.

STELLA.—You should have informed us long ago of the source of your ailment. You cannot do better than to continue in the hands of your physician. There is only need for care of general health, and avoidance of exertion. Your doctor is evidently treating you for the form of blood-poisoning or infection you name, and you will recover in time; only you must be patient.

J. C. HAMILTON.—For full information, read the pamphlet recommended to "Thermo" in the present number. This pamphlet will show you there is nothing seriously wrong. Attend to its diet and health-rules.

Weakened Energy

Horsford's Acid Phosphate.

THIS preparation supplies the phosphates required for the performance of the several functions of the body, and acts as a nutrient to the cerebral and nervous systems. Its value in the restoration of weakened energy is wonderful. Agreeable to the taste.

Dr. EDWIN B. WOOD, M.R.C.S., and L.R.C.P., Surgery, 123, Holoway Head, Birmingham, says: "I have tried it in extreme nervous debility, with very good results. I speak with great confidence of its good effects, and mean to continue its use."

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Providence, R.I., U.S.A.

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Certain HARNESS' Cure.
ELECTROPATHIC BELT
FOR
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Guaranteed to generate a mild continuous current of Electricity, which speedily cures all Disorders of the Nerves, Stomach, Liver and Kidneys. Thousands of Testimonials. **Pamphlet & Advice free on application** to **Mr. C. B. Harness,** *Consulting Electrician,* the **Medical Battery Co. Ltd.**
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WHENEVER this Syrup is prescribed the best and purest Preparation should be taken. Made by J. SELLERS, Manufacturing Chemist, 57, Farringdon-road, London, E.C., who will forward either sized Bottle free by post for three extra stamps.

Sold in 4-oz. bottles, 1s. 6d.; 8-oz. bottles, 2s. 6d.

DOIGS "Septicide" DROPS AND LINIMENT
KILL DISEASE IN EVERY FORM.

UNPARALLELED for Bronchitis, Diphtheria, Chest, Liver, and Kidney Complaints, Diarrhœa, Constipation, Congestions, Rheumatism, Gout, Inflammations, Children's and Female Ailments, Fevers, Ulcers, Old Sores, Blood and Skin Diseases, Wounds, Pains, Bruises, &c., &c.

Of all Chemists, 1s. 1½d. per bottle; or post paid of the Proprietor, ALEXANDER DOIG, 7, St. Paul's Churchyard, London, E.C. Demonstrations Free from 10 to 4 daily.

SCOTT'S EMULSION

OF PURE COD LIVER OIL
AND HYPOPHOSPHITES

Is three times as efficacious as the plain Oil.

It is almost as palatable as milk.

It does not nauseate or produce a loathing for food like the plain oil.

The Hypophosphites and Oil are so skilfully combined, that they are much more potent in building up flesh and strength than if taken separately, and **SCOTT'S EMULSION** is to-day the best remedial agent for the cure of

CONSUMPTION, CHRONIC COUGHS, BRONCHITIS, ANÆMIA, WASTING DISEASES OF CHILDREN and GENERAL DEBILITY.

Physicians universally prescribe it in preference to the plain oil, having seen its remarkable curative effects.

Any chemist can supply it at 2/6 and 4/6.

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"ELECT" COCOA.

The "Hospital Gazette" says:—
"Among the advantages it possesses may be enumerated "the ease with which it may be prepared, and its agree-"able flavour and aroma. In addition to these, it is, "when properly made, hardly thicker "than coffee, thus avoiding the dis-"advantage of some preparations which "are thick and muddy; this is produced "by the total absence of any thicken-"ing matter. To sum up tersely, we "would say that everyone should elect "to use it."

YORK, ENGLAND.

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If you want a really good ALL-WOOL SCOTCH TWEED, at Maker's Prices, in Worsted, Saxony, or Cheviot, *WRITE FOR PATTERNS.* All our own Manufacture. Any length cut. Splendid Selection. Tailors supplied with bunches of Patterns. Parties' own Wool made into Cloth. Heavy Tweeds, 1s. 9d. per WOOL. yard; Light Tweeds, 1s. 2d. per yard. Blankets, Rugs, Winceys, Flannel, &c. Carriage of Wool paid, and Patterns sent free.

IMPORTANT NOTE.—All Wools sent to be made into Heavy Tweeds, Blankets, Crumbcloths, &c., &c., are made from two-ply yarns. This makes the Cloth finer and wear much longer than when it is done in the ordinary way. Cloth will be returned in One Month from receipt of Wool.

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This Filter ceases to act when soiled, thus compelling people to clean it, which anyone can do in a few minutes; it is therefore

A SAFETY FILTER,

and not a delusion, as most Filters soon come to be.

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TRADE MARK. FOR THROAT IRRITATION COUGHS & COLDS. SPECIALLY RECOMMENDED BY

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"I regard them as extremely valuable in *obstinate Catarrhal affections of the Throat.* "MORELL MACKENZIE, M.D."

"LORD KEANE has taken the Soden Mineral Pastilles when suffering from Catarrh of the Stomach. They *completely* cured him and he can recommend them as the *best Lozenge* for *Coughs, Bronchitis,* and *Catarrh of the Stomach.*"

Of all Chemists at 1s. 1½d., or for 15 Stamps, from 10, DYERS'-BUILDINGS, HOLBORN.

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TRADE MARK. FOR BRONCHITIS ASTHMA & CATARRHAL AFFECTIONS. WHOSE TESTIMONIAL IS WITH EACH BOX.

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FOR INFANTS, INVALIDS, AND THE AGED.

BEST AND CHEAPEST.

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PREPARATIONS:

COCA TABLETS.

Containing Borax, to promote action on the Throat and the Vocal Cords. 2/6 per box.

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Without the Borax, for persons to whom its flavour would not be agreeable. 2/6 per Box.

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For making COCA Wine, the dose being 15 to 20 drops to the wineglass; can be taken in any fluid. 3/- per Bottle.

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